153/01963 A03

cancelled, new claims 57, 58 and 59 are added and claims 4, 12, 13, 19, 22, 23 and 25 are amended. Marked up versions of the amended claims showing the amendments made to the claims is attached hereto.

Claims 4-8, 12-25, 19, 22 and 23 are rejected under 35 U.S.C. §112, second paragraph as being indefinite.

Applicant submits that the cancellation of claim 8 and amendments to claims 4, 12, 13, 19, 22, 23, and 25 remove the reasons for the Examiner's 35 U.S.C. §112 rejections of claims 4-8 and 12-25.

Claims 1-14, 20, 21 and 26-42 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. 5,653,706 to Zavislan et al.

With regard to claim 1 the Examiner submits that U.S. 5,653,706 describes a "dermatological laser treatment system ..." that comprises the limitations recited in the claim. In particular, the Examiner asserts that the laser system comprises an "imaging subsystem (CCD camera 48; display 40; and monitor 26) that locates features on the skin to be treated" and in addition "a controller 24, that when a feature is located, controls the laser to radiate a pulse of laser...". Applicant respectfully traverses the Examiner's assertion.

The imaging system in the Zavislan the laser system does not locate features on the skin. It provides an image of an area of the skin on a display 40 or monitor 26 and "From this image as viewed on the monitor the treating physician can steer the beam to the desired location" (Column 4, lines 46 and 47). Steering is accomplished by operating a "beam steering device, which may be a joystick, trackball or computer mouse type device" (Column 4 lines 27-28, see also Column 5 lines 23-27). It is clear from the text that the physician does the locating of a desired location or feature. Nowhere in the Zavislan patent is there a discussion of any operation in which the imaging system described in the patent processes information in the images it acquires or generates *to locate* a desired feature or location.

As for the controller in Zavislan, it does not control the laser to radiate. The physician operating the laser system controls "firing" of the laser by pressing on a trigger button, which is described in detail as being operated by the fore finger and which may be a "two step switch" (Column 5 lines 15-23).

In view of the above it must be concluded that Zavislan has neither the "imaging subsystem that locates features" nor the "controller, that when a feature is located, controls the laser to radiate" recited in claim 1 of the present invention. Zavislan cannot therefore anticipate

3

claim 1.

With regard to claim 3, the Examiner submits that Zavislan teaches a tunable laser. Applicant respectfully disagrees. Citing a wavelength range for a wavelength of light that the laser provides i.e. 700-1300 does not of necessity mean that the wavelength is tunable as the Examiner's remarks appear to imply. Zavislan describes that "The beam is preferably of a wavelength from 700 to 1300 nanometers (nm) where skin and ... are translucent and where scattering occurs in the forward direction". The meaning of the quoted sentence is clear. A wavelength for which the skin is translucent and scattering occurs in the forward direction is preferable. Such wavelengths are found in the band of wavelengths from 700-1300 nm. The beam provided by the laser therefore preferably has a wavelength in this range. Since presumably any wavelength in the stated range provides the desired qualities and the patent does not discuss any other requirement of light provided by the laser, a non-tunable laser that provides a wavelength in the stated range is appropriate for the practice of the invention. The laser does not have to be tunable and the patent does not discuss or imply any requirement for light at more than one wavelength or a tunable laser that might provide light at more than one wavelength.

With regard to claim 9, Zavislan's imaging system cannot locate features during scanning because, as noted above with regard to claim 1, Zavislan's imaging system does not have any capability to locate features. The operating physician performs location of features in Zavislan.

Claims 15-19 and 22-25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. 5,653,706 in view of U.S. 5,437,290 to Bolger et al.

The Examiner submits that it would be obvious to combine a quadrature detection system as described in Bolger with the invention of Zavislan to provide the invention claimed in claims 15-19 and 22-25 of the application. Applicant respectfully traverses the rejection.

There is no suggestion or motivation taught in either Zavislan or Bolger for combining the invention of Zavislan with the quadrature system of Bolger or in any way modifying Zavislan in light of the quadrature teachings of Bolger. Furthermore, applicant submits that support for "modifying or combining" cannot be found in the "knowledge generally available to one of ordinary skill in the art" (MPEP 706.02(j)).

Applicant points out, as noted above, that the laser system taught by Zavislan does not locate features on the skin. Zavislan's laser system is a manually operated system and an operator of the laser system locates the features. It is further noted that features located by the laser system of the present application and by an operator of the Zavislan apparatus are natural features, which

4

are generally irregular, different one from the other and not equally spaced. On the other hand the quadrature system taught by Bolger is used for automatically, optically monitoring movement of artificial, regularly-spaced, identical markings on a catheter. The Bolger quadrature system is not suitable for detecting natural, irregular features that are far from identical and equally spaced.

Therefore there is not only no motivation to combine the Bolger quadrature detection system for automatically monitoring artificial features with the manually operated Zavislan laser system, there is also no apparent way to combine Bolger with Zavislan to provide the inventions claimed in claims 15-19 and 22-25. Applicant therefore submits that Zavislan in view of Bolger cannot support a prima facie case of obviousness for the claims.

New claim 57 is a method claim corresponding to apparatus claim 1 and is patentable for the same reasons that claim 1 is patentable. Claims 58 and 59 specify that the feature treated is a hair follicle and that the treatment comprises cauterization. Support for the added claims is found throughout the text and in the figures (*e.g.* page 11 lines 19-25, Fig. 2 and discussion of the figure).

In view of the above remarks applicant feels that independent claims 1 and 57 in the amended claim set are patentable and that all the dependent claims in the claim set are patentable, either through dependence on claim 1 or because of patentable limitations that they recite.

An action on the merits is respectfully awaited.

Respectfully submitted,
U. SHARON

Allan C. Entis
Reg. No. 52,866

March 19, 2003

William H. Dippert, Esq.
Reed Smith LLP
599 Lexington Ave, 29th floor
New York, NY 10022-7650

Tel: (212) 521-5400

4. (Twice amended) A laser system according to claim 1 wherein the spot to which the laser is focused has an area having a diameter substantially equal to a diameter of an area ~~characteristic of the size distribution of areas~~ occupied on the skin by a features to be treated, multiplied by a factor greater than one.

where in the epistics, a diameter larger than the feature to be treated

12. (Amended) A laser system according to claim 11 wherein the controller controls the laser to radiate a pulse of light only if a feature to be treated is determined to lie substantially within ~~an area centered at the imaging optics focal point having a size substantially equal to the size of~~ the spot to which the laser pulse is focused.

13. (Twice amended) A laser system according to claim 1 comprising circuitry that receives signals generated by the at least one photosensitive surface~~photosurface~~ responsive to an imaged region of the skin and processes the signals to locate contrasted sub-regions in the imaged region to locate features to be treated.

19. (Amended) A laser system according to claim 18 wherein if any of the photodetectors adjacent to sides of the quadrature detector generates a signal responsive to a contrasted sub-region imaged on the photosensitive surface, the circuitry determines that a portion of the sub-region ~~is determined to~~ lies outside the spot to which the laser pulse is focused and the laser is not energized by the controller.

22. (Amended) A laser system according to claim 21 wherein the circuitry processes signals from the quadrature detector ~~are used~~ to determine whether a contrasted sub-region imaged on the quadrature detector is substantially centered within the spot to which the laser pulse is focused.

23. (Twice amended) A laser system according to claim 21 wherein the circuitry uses signals from the quadrature detector ~~are used~~ to determine whether a contrasted sub-region imaged on the quadrature detector is larger than a predetermined minimum size consistent with the size distribution of areas occupied on the skin by features to be treated.

25. (Amended) A laser system according to claim 24 wherein if the photosensitive surface generates signals responsive to a contrasted sub-region imaged on the photosensitive surface,

6

the circuitry determines that a portion of the sub-region is determined to lies outside of the spot to which the laser pulse is focused and the laser is not energized by the controller.